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NORTH AMERICAN CICADAS BELONGING TO THE GENERA PLATYPEDIA AND MELAMPSALTA.

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The genus *Platypedia* was described by Uhler in Entomologica Americana, Vol. IV, p. 23, April, 1888, and *Cicada areolata* Uhler, 1861, and *Cicada putnami* Uhler, 1877, were cited as belonging to the group. The original description of the genus is as follows: "Elongate, acutely tapering posteriorly, with a sub-carinate ridge on the tergum, extending from near the base to beyond the middle; wing-covers when at rest almost vertical. Head bluntly triangular, hirsute, the vertex gently sloping, almost as long as the pronotum, with the transverse sulcus deep and direct, not triangularly parted; the anterior ocellus placed in a longitudinal groove, which latter is continued upon the turmid front; front quite prominent, strongly convex; exterior cheeks long and narrow; supra-antennal plates narrow, thick, bounded each side by a notch. Pronotum short, moderately hirsute, with the dorsal surface feebly convex, not corrugated, but with two oblique grooves each side, the lateral margins almost straight, with the anterior angles feebly reflexed, and the posterior angles narrowly, but abruptly turned up; epipleural flaps as long as the pronotum, broadly crescentiform, but a little triangularly produced obliquely backwards and downwards. Anterior femora short and stout, swollen in the middle, grooved on the outside near the tip. Wing-covers wide, strongly bowed on the costal margin, the areoles large and mostly

wide, basal areole oblong, the radial areole occupying more than one-half the length of the wing-cover, the second ulnar areole short, wide, almost triangular; the apical areoles narrow, and the third, fourth, and sixth of equal length, with their inner tip triangular, while the inner end of the second, fifth, and seventh is truncated; wings narrow, not reaching as far as the tip of the discoidal areole of the hemelytra, with the anal-flaps broadly rounded, and separated by a deep emargination from the other member of the wing. Anal segment of both sexes narrow and compressed, acutely tapering, with the ovipositor of the female almost enclosed therein. Sonorous valves of the male rudimentary, inconspicuous."

To the above description may be added that owing to the great length of the radial cell the node is much nearer the end of the fore wing than in any other genus of North American Cicadas. In *Platypedia,* as in *Clidophleps, Okanagana, Okanagodes* and *Tibicinoides,* the metanotum is conspicuous behind the mesonotum, and the uncus cannot be withdrawn into the abdomen.

In August, 1888, Uhler described *Platypedia minor* in Entomologica Americana, which made the third species of the genus. Then followed three more, namely *aperta, intermedia* and *ampliata,* described by Mr. Edward P. Van Duzee in 1915 in the Journal of the N. Y. Entomological Society.

In his Synonymic Catalogue of Homoptera, Part 1, Cicadidæ, 1906, W. L. Distant designated *areolata* as the type of the genus and places *putnami* as a synonym of that species. He recognizes *minor* as a valid species. In the Catalogue of the Hemiptera of America North of Mexico, 1917, Mr. Van Duzee lists the six species mentioned above, and gives *areolata* as the logotype of the genus.

As far as known no species of *Platypedia* occur east of the Mississippi River, but from western Nebraska and Colorado westward to the Pacific, and southward to the Rio Grande there are at least ten species, and two species in the allied genus *Neoplatypedia.* In the Annals of the Entomological Society of America, Vol. XII, pp. 1–12, 1919, Dr. Edwin C. Van Dyke has an article on The Distribution of Insects in Western North America, and an examination of the localities given for several species of Cicadas mentioned in this paper, suggests that some are confined to the faunal areas defined in the article

referred to. In time, as more is learned concerning the distribution of Cicadas, this will no doubt prove to be the case.

In the following pages each species is considered separately, and all specimens mentioned are in the writer's collection unless otherwise stated. I am under obligations to a number of entomologists and various institutions for the privilege of examining specimens, or for material received, and acknowledgment is made in connection with the notes on each species.

A useful table for the determination of several of the species of *Platypedia* will be found in Mr. Van Duzee's Preliminary Review of the West Coast Cicadidæ, Journal N. Y. Entomological Society, Vol. XXIII, March, 1915. That author makes the helpful statement that, "Normally all our species of *Platypedia* have the following pale markings: Sides of the face, supra-antennal plates in part, median line and hind edge of the pronotum, hind margin of the metanotum including the posterior one half of the elevated ×, the costal nervure as far as the node and the propleura superiorly."

We would like again to emphasize the importance of stretching the specimens, or at least the two wings on the left hand side of the body, so that the characters can be more plainly seen. The membranes at the base of the wings in *Platypedia* and *Neoplatypedia* are often colored in a manner useful in the determination of species, and this character can hardly be seen when the wings are closed. The reproduced photographs on the plate accompanying this article serve to illustrate the size, venation, and general shape of wings and body, but they do not show the often very beautiful and strikingly contrasted colors exhibited by some of the species.

KEY TO THE GENERA AND SPECIES OF PLATYPEDIA AND NEOPLATYPEDIA.

Apical cells of fore wing eight; costal vein of fore wings evenly curved except in *Platypedia barbata*, where it is somewhat suddenly bent. A ventral view shows the underside of the abdomen not hidden by the closed wings.
Platypedia Uhler.

Apical cells of fore wing seven; costal vein of fore wings expanded and conspicuously bent beyond the middle of the radial cell. In ventral view the apical portion of the underside of the abdomen is hidden if the wings are closed ..... **Neoplatypedia** new genus.

Genus **Platypedia** Uhler.

A. Fore wings more than twice as long as broad.

B. Large, expanding 40 millimeters or over; uncus when viewed from above long and narrow.

C. Head narrow across eyes with front strongly produced.

D. Uncus viewed in profile very thin and flattened at the extremity. Body black, head and thorax dull, abdomen shining, reflections bluish black; fore femora entirely black, pale at extremities; membranes at base of fore wings orange. Expands about 44 millimeters. Occurs in Arizona, Colorado, New Mexico .....**mohavensis** new species.

DD. Uncus viewed in profile slightly arched above, sinuate beneath, extremity not flattened as in *mohavensis*.

Body blue black, particularly the head and thorax; fore femora chestnut colored above, paler at extremities; membranes at base of fore wings bright orange. Expends about 40 millimeters. Occurs in California...**rufipes** new species.

CC. Head broader across the eyes with front not as strongly produced. Uncus viewed in profile arched at top, the arch extending to the extremity, which is thickened; uncus also deepened near the base in typical *putnami* and *areolata*.

E. Body black with bluish reflections especially on the pronotum and mesonotum. Fore femora in mature individuals entirely black, pale at extremities, except in variety *occidentalis* of *putnami* which has chestnut colored fore femora. Vein separating radial cell from ulnar cells black throughout its length in mature individuals.

Costal margin of fore wings to end of radial cell brilliant orange; membranes at base of fore wings bright orange or blood red. Uncus viewed in profile with distal two thirds of lower line not straight, but curved so that the extremity sometimes appears bent downward. Expands about 50 millimeters. Occurs in Colorado, Nebraska, New Mexico, Nevada, California .....**putnami** (Uhler).

Body blue-black and marked as in typical *putnami* except the legs which are pale, the fore femora not blackened above, and the other legs also almost wholly chestnut colored. Occurs in western California.

putnami var. **occidentalis** new variety.

Body blue black but duller than in *putnami*. Costal margin of fore wings to end of radial cell, and membranes at base of fore wings orange. Expands about 53 millimeters. Occurs in Utah, Montana, Arizona, Wyoming.

putnami var. **lutea** new variety.

Body almost black, bluish reflections faint. Membranes at base of fore wings pale, often almost white. Uncus viewed in profile arched at top, and usually with distal two thirds of lower line but slightly curved. Expands from 48 to 54 millimeters. Northern California, Oregon.

putnami var. **keddiensis** new variety.

EE. Body black with brassy or greenish reflections. Fore femora almost entirely chestnut colored. Membranes at base of fore wings pale, often almost white. Vein separating radial cell from ulnar cells usually pale throughout its length.

Uncus viewed in profile arched at top, distal two thirds of lower line not straight but curved so that the extremity sometimes appears bent downward. Front of head usually quite hairy. Expands from 48 to 54 millimeters. Occurs in British Columbia, Washington, Oregon, California, Idaho, Montana .....**areolata** (Uhler).

Uncus viewed in profile arched at top but more suddenly declivitous near the tip than in *areolata*; distal two thirds of lower line straight or nearly so with a subapical sinuation. Veins of fore wings almost entirely pale, except those surrounding the first and second ulnar areas, and the first seven apical areas, which are black or nearly so. Expands from 40 to 44 millimeters. Occurs in California.

similis new species.

Uncus when viewed in profile evenly arched at top, and with lower line straight for part of its length before the hooked extremity. Hairs on front of head long and conspicuous. Costal margin of fore wings chestnut colored. Expands 45 millimeters. Occurs in Texas.....**falcata** new species.

BB. Small, expanding about 38 millimeters; uncus when viewed from above broadly ovate. Fore wing 17 × 6.5 mm.

Uncus when viewed from above "nearly as broad as long, with its apex subacute." Last ventral segment in female with notch broadly V-shaped. Membranes at base of fore wings pale orange. Expands about 38 millimeters. Occurs in California.....**aperta** Van Duzee.

AA. Fore wings much broader, the breadth being equal to about one half the distance from the basal cell to the apex of the wing.

Uncus when viewed from above broadly lanceolate and subacute at apex, its width almost half the length. Last ventral segment in female with notch more narrowly V-shaped than in *aperta*. Membranes at base of fore wings orange. Expands about 36 millimeters. Occurs in California and Nevada .....**vanduzeei** new species.

Uncus when viewed from above long and slender; seen in profile nearly straight below, arched above. Last ventral segment in female with notch

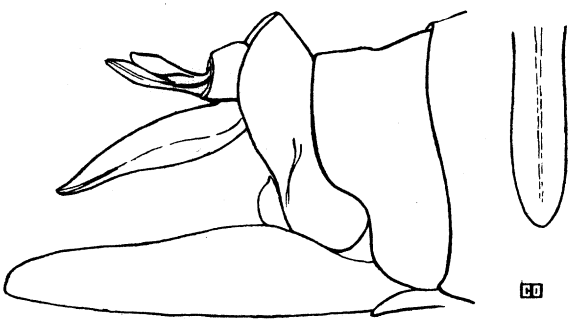
V-shaped. Membranes at base of fore wings almost white. Fore wings proportionately broader than in *vanduzeei*. Expands about 41 millimeters. Occurs in California, Nevada, Colorado.....**minor** Uhler.

Uncus when viewed from above narrow; when seen in profile somewhat resembling in shape that of *putnami*. Last ventral segment in female with notch U-shaped. Costal margin of fore wing slightly bent near the end of the radial cell. Membranes at base of fore wings red. Expands about 38 millimeters. Occurs in California.....**barbata** new species.

Platypedia mohavensis new species. Plate V, fig. 1.

Type male and allotype female, from Trumble Mountain, Mohave Co., Arizona, 1919 (J. A. Crosby). Davis collection.

Resembles *Platypedia putnami*, but is much slimmer, has a narrower head, and very protruding front. The uncus in *putnami* is large and has a dorsal ridge extending to the thick rounded point; in *mohavensis* it is much smaller, the dorsal ridge is low or almost absent, and does not extend to the thin and flattened rounded extremity. Last ventral segment of the male narrow and rounded at apex; valve not as long as in *putnami*, but of the same general shape. Last ventral segment in the female with the notch narrower than in



PLATYPEDIA MOHAVENSIS

putnami, which results in the extremities on each side of the notch being much more broadly rounded.

The body is dull blue-black covered in greater part with white hairs, which are particularly long behind the eyes, about the mesonotal ×, and especially so beneath. The following markings are orange: supra-antennal plates in part, a small dot at the base of the vertex continued as a median line on the pronotum, which, however, does not reach the orange colored hind margin or collar; hind margin of the mesonotum including only part of the mesonotal ×, and hind margin of the metanotum. Membrane at base of fore wings orange, also the costal margin to end of radial cell, remainder of venation black or nearly so. Veins of the hind wings pale except about the apical cells. The

femora are blackened above in the middle and hind legs except at the extremities, while in the fore legs they are entirely black except at the extremities. The mercanthi are long and pointed, orange in color.

MEASUREMENTS IN MILLIMETERS.

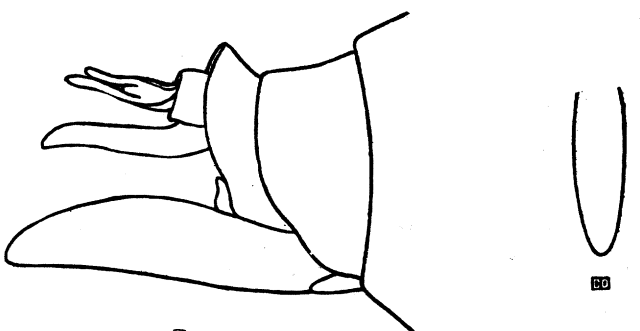
	Male Type.	Female Allotype.
Length of body	21	19
Width of head across eyes	5	5
Expanse of fore wings	45	45
Length of valve	5.5	

In addition to the type and allotype there have been examined twenty-nine males and twenty-nine females from Trumble Mountain, Mohave Co., Arizona, collected by Mr. J. A. Crosby in the spring or early summer of 1919. In this long series the colors are exactly as in the type and allotype.

Stockton, Utah, May, 1916, male (Tom Spalding).

Bondad, Colorado, June 27, 1919, about 6,100 ft., male and three females (Dr. F. E. Lutz), collection American Museum of Natural History.

Chaves, New Mexico, female (from Prof. H. F. Wickham).



PLATYPEDIA RUFIPES

In the Utah, Colorado and New Mexico specimens, the color at the base of both pairs of wings is of a slightly darker orange than in the types.

Platypedia rufipes new species. Plate V, fig. 2.

Type male and allotype female, from Los Angeles Co., California, May (Coquillett). Collection U. S. National Museum.

Resembles *Platypedia mohavensis* in having a relatively small head and protruding front. The uncus is bent downward at the extremity, slightly ridged on the dorsal surface; when seen in profile the lower line is sinuate and the basal third is without the deepened area to be found in *putnami* and *areolata*. Last ventral segment of the male rounded at apex; valve shorter and more robust than in *mohavensis*. Last ventral segment in the female with the notch somewhat U-shaped and in form about as in *mohavensis*, that is not as broadly open as in *areolata* and *putnami*. The pale markings of the body are those common to the genus, as already mentioned. In *mohavensis* the venation of the fore wings is almost entirely black except the costal margin to the end of the radial area, while in the present species the vein separating the ulnar areas from the radial area is orange; the veins surrounding the last two ulnar areas are also almost wholly orange, while the veins surrounding the marginal areas are nearly all black. The membranes at the base of the fore wings are bright orange. The venation of the hind wings is pale, except about the marginal areas, where it is nearly entirely black.

MEASUREMENTS IN MILLIMETERS.

	Male Type.	Female Allotype.
Length of body	18.5	17.5
Width of head across eyes	5	5.25
Expanse of fore wings	40	42
Length of valve	3.5	

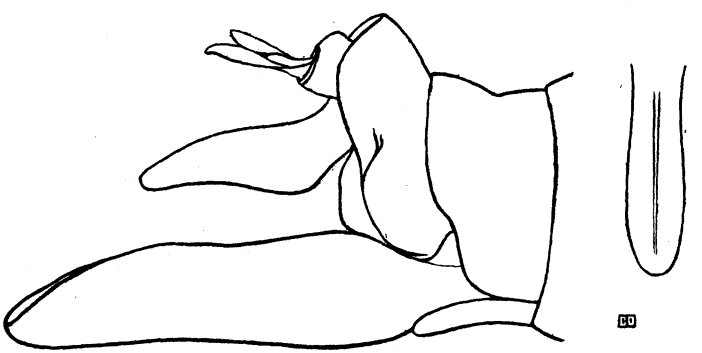
In addition to the type and allotype five females have been examined, collected in Los Angeles Co., California, May (Coquillett).

In the collection of the California Academy of Sciences there is a large male with wings expanding 52 millimeters, from Bear Lake, San Bernardino Mts., California, May 17, 1919 (J. O. Martin), that is considered here on account of the form of the uncus which resembles that of the type of *rufipes* except that it is much straighter along the lower line. The front of the head is prominent; the fore femora are chestnut colored, darkened beneath; femora of middle and hind pairs of legs striped with black; tibiæ blackened at the basal joints. The fore wings have the costal margin bright orange to the end of the radial cell, but the remainder of the venation is darker than in the seven specimens of *rufipes*. This insect may belong to a distinct species.

Platypedia putnami (Uhler). Plate V, fig. 3.

1877. *Cicada putnami* Uhler, Bulletin U. S. Geological and Geographical Survey of the Territories, iii, p. 455.

The original description of this species states that the head, pronotum and mesonotum are "blue-black"; the "hemelytra and wings hyaline . . . base, tegulæ, and costal nervures orange, the latter long and broadly arcuated; the marginal nervure beyond the anastomosis and all the other nervules blackish-piceous." The legs are described as having the "femora broadly black on the upper, fore, and hinder sides; the anterior pair also black on the under side." "Length to end of genital sheath 21 millimeters; to tip of closed hemelytra 26 millimeters." In Entomologica Americana, Vol. IV, p. 23, April, 1888, Uhler says of *putnami*: "This species is generally of a bright steel blue color, distinctly marked with brilliant orange. It has been taken at Ogden, Utah, in Clear Creek Canyon, Col., and in several parts of the mountainous regions of Nevada." In the original description the types are said to have been "collected in the vicinity of Clear Creek, Colorado, by Mr. J. Duncan Putnam." The male figured



PLATYPEDIA PUTNAMI

on our plate came from Clear Creek Canyon, Colorado, about thirty-five miles west of Denver, from which Uhler's types also came. A male labeled "*Platypedia putnami* Uhler, Clear Creek, Col.," is in the Uhler collection, U. S. National Museum, and is, no doubt, one of the specimens from which the original description was made. A female from Ogden, Utah, is also in the Uhler collection and is probably the one referred to by him in 1888 as mentioned above. We, however, regard this as belonging to variety *lutea*.

Specimens have been examined as follows: Colorado.—Clear Creek, male and female (Oslar). Chimney Gulch, Golden, 7,500 ft., three males, four females without date, and male and female July 1, 1913 (Oslar). Bear Creek, Morrison, July 27, 1913, male and female (Oslar). Platte Canyon, 8,000 ft., July 10, 1913, male and five females (Oslar). Golden, June 26, 1911, male (E. A. Frost). Alamosa, June 21, 1912, male and three females (Oslar). Durango, May 27, 1912, male; June 3, 1912, female; June 10, 1912, male, and three males, two females without date (Oslar). Some of the specimens from Alamosa and Durango may be immature; the wings are not as clear as usual and the fore femora are not as black except in one male.

The following Colorado specimens are in the United States National Museum: Fort Collins, June 16, 1899, male; Canon City, male (Wickham); Chimney Gulch, May 13, 1901, female (Dyar and Caudell); Platte Canyon, May 25, 1901, female, and June 1, 1901, female (Dyar and Caudell); Boulder, June 3, 1901, male and female (Dyar and Caudell); Golden, June 5, 1901, female (Dyar and Caudell); Mill Gulch, Platte Canyon, May 30, 1919, male and four females (L. O. Jackson). In the collection of the Academy Natural Sciences of Philadelphia there is a specimen from Manitou, July 1.

In the American Museum of Natural History are the following Colorado specimens collected by Dr. Frank E. Lutz: Starkville, June 13, 1919, about 6,800 ft., thirteen males, nine females; Pagosa Springs, June 21–23, 1919, about 7,500 ft., male; Bondad, June 27, 1919, about 6,100 ft., male, two females; Mesa Verde, July 3–7, 1919, about 7,300 ft., three males, three females. Dr. Lutz noted in connection with those collected at Starkville, that their song was a "clicking sound; about eight clicks, rapid at first, but slowing."

Nebraska.—Hat Creek Valley, Sioux Co., July, 1896, two males, two females (H. G. Barber), Davis collection, and two males, three females collected at the same place and time, H. G. Barber collection. Squaw Canyon, Sioux Co., June, 1896 (Barber), H. G. Barber collection. Mr. Barber writes that there were great numbers of *putnami* in western Nebraska where he collected in 1896. Monroe Canyon, Sioux Co., June, 1911, male and two females (R. W. Dawson). War Bonnet Canyon, Sioux Co., May 20, 1901, two males (L. Bruner), and June 27, 1911, three females (R. W. Dawson). Including those

just mentioned I have seen 118 specimens from Sioux Co. in the northwest corner of Nebraska, kindly sent to me for examination from the University of Nebraska. All show bluish reflections with red-orange markings including the costa to the end of the radial cell.

Nevada.—Four females labeled "Nevada" from collection University of Minnesota. These are typical *putnami*. In the Uhler collection, U. S. National Museum, there are nine females and two males labeled "Nevada" which also appear to be typical *putnami*.

New Mexico.—Jemez Springs, Sandoval County, 6,400 ft., collected by John Woodgate, May, 1916, fifty-two males, thirty-eight females; June, 1916, three males, five females; July, 1916, male and two females at 7,500 ft.; June, 1917, female, and June 7, 1917, female at 8,000 ft.; May, 1918, male; June, 1918, fifteen males, thirteen females; July, 1918, female; May, 1919, eight males, three females; June, 1919, twenty-six males and fifty-nine females. In 1916 Mr. Woodgate wrote "the cicadas of which I sent you so many specimens, swarmed everywhere here this summer." Cloudcroft, 9,000 ft., female (Warren Knaus). Box Canyon, June, 1912, female. Four miles southeast of Santa Fe, N. M., on the old Sante Fe trail, 7,000 ft., on scrub pine and cedar, June 15, 1918, male and three females (Warren Knaus). Mr. Knaus writes: "The small species did not attempt to fly, except an occasional short flight; did not sing, but made a *snap, snap, snap, snap,* noise." Ft. Wingate, May 4, 1908 (John Woodgate), collection Academy Natural Sciences of Philadelphia.

California.—Los Angeles County, two females without date (B. Neubarth). These specimens have the legs somewhat lighter colored than typical *putnami*. They expand 48 millimeters. In the absence of male specimens they are doubtfully placed here.

Mr. J. Duncan Putnam, after whom this species was named, was connected with the Davenport, Iowa, Academy of Natural Sciences, and in the proceedings of that society, Vol. II, 1876–1878, "*Cicada putnami* Uhler" is figured on plate IV, figs. 2 and 3, male and female. Figure 3 gives a side view with wings closed; figure 4, with wings expanded. It is stated that the figures were "Drawn and engraved on stone by Herman Strecker." The figures are not accompanied by any account of the species.

Platypedia putnami var. **occidentalis** new variety.

Type male and allotype female, Carrville, Trinity Co., California, June 21, 1913 (Dr. E. C. Van Dyke). Collection California Academy of Sciences.

This variety has the head and thorax blue-black, marked with brilliant orange as in typical *putnami,* but it is generally larger and has lighter colored legs. The front femora are not shining black with extremities pale as is the case with Nebraska, Colorado, Montana and New Mexico specimens of *putnami,* but with the exception of being slightly darkened beneath, the femora are entirely light chestnut colored or reddish orange. The fore wings have slightly yellowish reflections; costal margin is brilliant orange to the end of the radial cell, the remaining veins are black or nearly so, and the membranes at base are brilliant orange.

MEASUREMENTS IN MILLIMETERS.

	Male Type.	Female Allotype.
Length of body	22.5	21
Width of head across eyes	6.5	6.5
Expanse of fore wings	49	54
Length of valve	6	

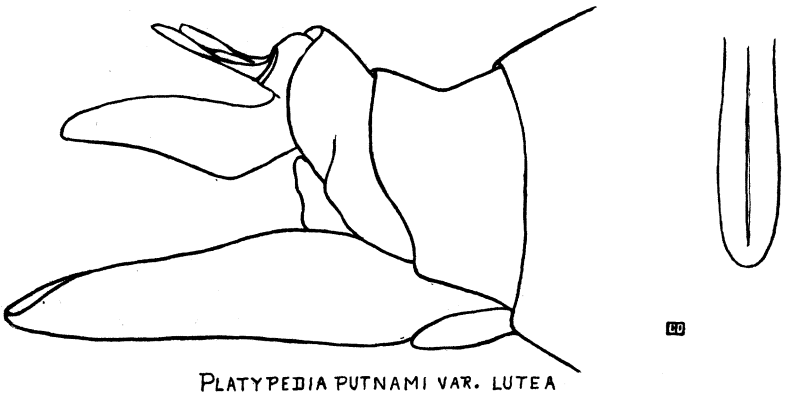
Specimens of this variety have been examined from the western part of California only. They are as follows:—Dunsmuir, Siskiyou Co., July 20, female (Dyar and Caudell); Navarro, Mendocino Co., June 7, female (Behrens), collection United States National Museum. Carrville, Trinity Co., June 1, 1913, male, and June 3, 1913, female (E. C. Van Dyke). Sonoma County, April, 1914, two females. Marin County, two females in collection American Museum of Natural History.

Platypedia putnami var. **lutea** new variety. Plate V, fig. 4.

Type male, State Canyon, Provo, Utah, July 7, 1916 (Tom Spalding). Davis collection.

Allotype female, State Canyon, Provo, Utah, July 1, 1916 (Tom Spalding). Davis collection.

This variety is blue-black but not so much so as in typical *putnami,* and has the lighter markings orange-yellow instead of the brilliant orange or blood-red of typical *putnami.* The fore femora are entirely black except the extremities, as in *putnami.* In Colorado and western Nebraska the colors of *putnami* are remarkable for their brilliancy, the membranes at the base of the fore wings are often of a blood-red, while further west true *putnami* is replaced in certain areas as in Utah by the present variety with orange-yellow markings, which contrast strongly with the somewhat dull blue-black of the greater part of the body.



PLATYPEDIA PUTNAMI VAR. LUTEA

MEASUREMENTS IN MILLIMETERS.

	Male Type.	Female Allotype.
Length of body	23	23
Width of head across eyes	6	7
Expanse of fore wings	53	59
Length of valve	6	

In the Uhler Collection, U. S. National Museum, there is a male of this variety from "Am. Fk. Can. Ut., June 23, 1891," labeled "*P. areolata* Uhl. Det. by Uhler," also a female of the same variety and from the same place and collected at the same time, labeled "*P. putnami* Uhl. Det. by Uhler." This goes to show that Uhler was uncertain about the form which we have here called *lutea.*

Other specimens examined are as follows:

Utah.—Ft. Douglas, July, two females (Prof. H. F. Wickham). Provo, June 4, 1910, two females; June 17, 1912, five males, one female (Tom Spalding). State Canyon, Provo, July, 1916, thirteen males, nine females; June 17, 1917, six males, two females; June, 1918, male (Tom Spalding). Stockton, May, 1916, female (Tom Spalding). Kaysville, Davis Co., June 23, 1912, two females (E. R. Kalmbach). Bellevue, Washington Co., 4,000 ft., June, 1917, male and female (G. P. Engelhardt), Davis collection, and same locality and date two males and a female, collection Museum Brooklyn Institute of Arts and Sciences. In the U. S. National Museum are the following:—Kamas, two females (H. E. Burke); Ogden, June 20, 1885,

male; "Utah," June 16, 1904, three females (S. L. Vail); Kaysville, June 23, 1912, two males (E. R. Kalmbach).

Wyoming.—Bridger Basin, male and female, collection Museum Comparative Zoology, Cambridge, Mass.

Montana.—Gallatin Co., 5,000 ft., July 10, 1902, male (R. Berston), Montana Agri. Experiment Station.

Arizona.—Top of Grand Canyon, June 6, 1916, male and three females (G. P. Engelhardt). Mohave Co., 1919, male (J. A. Crosby). Moran's Point, Grand Canyon, June, 1901, two females, collection Am. Museum of Natural History. Grand Canyon, June 16, 1907, 7,000 ft., male (H. A. Kaeber), collection Academy Natural Sciences of Philadelphia. Williams, May 26–28, four males (Barber and Schwarz), collection U. S. Nat. Museum.

Platypedia putnami var. **keddiensis** new variety.

Type male, Keddie, Plumas Co., California, May 16, 1919 (Mrs. Luman). Davis collection.

Allotype female, Keddie, Plumas Co., California, June, 1918 (Frank Morton Jones). Davis collection.

The front femora in this variety are black, except the distal extremities, and the vein separating the radial cell from the ulnar cells is black throughout its length. It is a darker form than *areolata* and the reflections are slightly

PLATYPEDIA PUTNAMI VAR. KEDDIENSIS

bluish in color. The membranes at the base of the fore wings are almost white as in typical *areolata,* not orange as in variety *lutea,* and the costal margin to the end of the radial cell shows a brownish tint, not the brilliant orange or reddish-orange of *putnami,* or the clear orange of variety *lutea*

from Utah, Montana, and Arizona. The uncus approaches in shape that of *Platypedia similis* from further south.

MEASUREMENTS IN MILLIMETERS.

	Male Type.	Female Allotype.
Length of body	23	23
Width of head across eyes	6	6.5
Expanse of fore wings	49	52
Length of valve	5.5	

In addition to the type and allotype the following specimens have been examined, from California:—Keddie, Plumas Co., June 7, 1918, female, June 24, 1918, female, June 28, 1918, female (Frank Morton Jones); May 16, 1919, male (Mrs. Luman). Plumas County, June 14, 1913, female (F. W. Nunenmacher). Lassen County, June 5, 1913, male (F. W. Nunenmacher).

In the collection of the Colorado Agricultural College, there is a female labeled Corvallis, Oregon, July 8, 1896.

Platypedia areolata (Uhler). Plate V, fig. 5.

1861. *Cicada areolata* Uhler. Proceedings Academy Nat. Sciences of Philadelphia, xiii, p. 285.

In the original description the color is given as "black, with a slightly æneous tinge"; the "eyes very prominent"; the "hemelytra

PLATYPEDIA AREOLATA

broad, obtuse, dilated upon the costal margin to the tip of the first marginal areolet, costa and two posterior longitudinal veins at base, yellow, remainder of the veins piceous, veins of the wings yellow,

piceous at the tip, excepting the middle longitudinal one, which is piceous almost to the base"; the "legs orange, the anterior femora black beneath"; the "penis cover [uncus] is subfusiform, carinated above, and with an interrupted groove exterior to the concave sulcus present upon each side of the middle." The length is given as 21 millimeters, and the expanse as 50 millimeters. The type locality is given as "east of Fort Colville in Washington Territory." In the Uhler collection, U. S. National Museum there is a single female labeled "*Cicada areolata* Uhler, E. of Ft. Colville, N. W. Bound. Surv." This is no doubt one of the types mentioned in the original description. It expands 56 millimeters and the fore wings are 10 millimeters broad. The reflections are brassy. The fore legs are now missing, but we have Uhler's statement in the original description, "legs orange the anterior femora black beneath."

In the Bulletin of the U. S. Geological and Geographical Survey of the Territories, 1874–1875, Vol. I, p. 343, Uhler has this to say of the distribution of *areolata*: "Collected in Cache Valley, Utah, by C. Thomas, but previously known from San Mateo, Cal. (A. Agassiz); from Ogden, Utah; from Virginia City, Nev. (J. Behrens); and from Washington Territory." The Cache Valley and Ogden, Utah, specimens belonged probably to what is described in this paper as *putnami* var. *lutea,* and the San Mateo, California, material no doubt belonged to what we call *Platypedia similis.*

Specimens have been examined as follows:

British Columbia.—North Bend, June 6, 1892, two females, U. S. National Museum. Armstrong, July, 1914, male (W. Downes), collection Dept. of Agriculture Province of Nova Scotia. Lardo, Kootenay Lake, June 17, 1905, male (J. Chester Bradley), Cornell University.

Washington.—"Wash. T.," no date, female, collection U. S. National Museum. Logie Creek, Yakima Co., June 16, 1913, three males and two females (Clarence H. Kennedy). Concerning these specimens Mr. Kennedy writes as follows: "They were taken on alder, sumac and balsam trees along Logie Creek. Their call is not like the 17-year form, nor like the eastern harvest flies, but consists of just a few clicks. Until I stumbled on to one clicking it had not occurred to me that they were cicadas." One of the males from Yakima Co. is figured and genitalia drawn.

Oregon.—Dilley, female in the collection of the Museum Brooklyn Institute of Arts and Sciences, female in the writer's collection, and a male and female in the collection of H. G. Barber, all without date. Wilson, June 7, 1915, female (M. M. Rheer), Corvallis, May, 1901, male; May, 1908, female (Elta Baber); May 28, male (Mark Wright); June 5, 1912, male (L. G. Gentner); male without date (W. J. Chamberlin). Mary's Peak, Lincoln Co., May, three males and one female (W. J. Chamberlin). Odell, June 10, 1914, male. In the collection of the Oregon Agricultural College there is a long series of over forty specimens of *areolata* which I have been permitted to examine through the courtesy of Prof. A. C. Lovett. Those from Corvallis range in date from April 1 (1897) to June 16 (1896). There is, however, a single male from Hood River, August 15, 1913, and another male labeled Philomarth, Sept. 14, 1906 (Schranck). Two females were collected in the Santiam National Forest, April 27, 1915, by W. J. Chamberlin.

Idaho.—Wallace, June 9, 1915, male, two females; May 2, 1916, male; May 3, 1916, male and female; May 23, 1916, female; May 31, 1916, female; June 9, 1916, female; May 8, 1917, male; May 9, 1917, male; May 14, 1917, three females; May 18, 1917, male; June 3, 1918, female; June 9, 1918, female; June 18, 1918, male; June 24, 1918, female; April 24, 1919, male; April 28, 1919, male; April 30, 1919, male; May 12, 1919, female; May 14, 1919, female; May 16, 1919, male and female; May 18, 1919, male; May 25, 1919, female; June 1, 1919, female; June 22, 1919, two females (Otto Huellemann). This long series of twelve males and nineteen females collected during the past five years by Mr. Huellemann show no variation. Mt. Moscow, female (Frank Magee). Moscow Mts., July 8, 1898, female, collection Am. Museum of Natural History. Troy, May 31, 1908, two females (E. T. Cresson, Jr.), collection Academy Natural Sciences, Philadelphia.

Montana.—Bonner, May 26, 1904, male, collection Brooklyn Institute of Arts and Sciences. Bear Dance, Flat Head Co., June 7, 1912, male. Four other specimens from Bear Dance, collected June 7, 1912, and two females from Thompson Falls, Missoula Co., are in the collection of the Montana Agrictultural Experiment Station.

California.—Humboldt Co., May 22, 1911, male (F. W. Nunen-

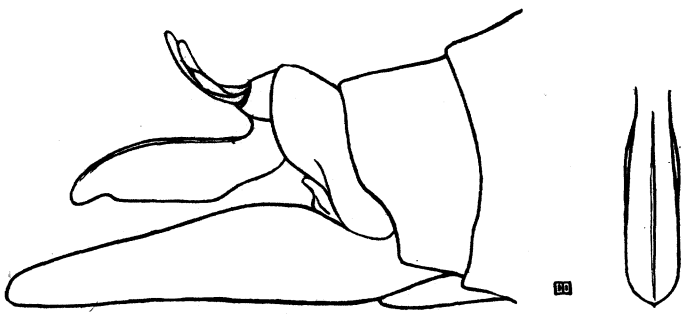
macher). Siskiyou Co., June 1, 1911, female (F. W. Nunenmacher). In the writer's collection there are also two males and three females collected in Mariposa Co., June 6 and 17, 1914, that may not be *areolata* as they are very much smaller, expanding from 40 to 46 millimeters.

Platypedia similis new species. Plate V, fig. 6.

Type male and allotype female from Sonoma Co., California, March 15, 1914. Davis collection.

Resembles *Platypedia areolata,* but is smaller and has a differently shaped uncus.

Shape of head as in *areolata,* except that the front is usually a little more prominent. The frontal sulcus is well defined and continuous, whereas in *areolata* it is interrupted at about the seventh or eighth transverse ridge, with the ridge itself often plainly continuing across the sulcus. The uncus is almost straight for the distal half or more of the lower line except for a subapical sinuation, while the dorsal arch is higher, also more suddenly declivitous at the extremity than in *areolata.* The last ventral segment in the male is not



PLATYPEDIA SIMILIS

as broadly rounded at the extremity as in *areolata.* The notch in the last ventral segment of the female is the same in both species, that is V-shaped.

The body is black with a brassy tinge, and the usual paler marks are yellowish orange as in *areolata*; the legs are almost wholly chestnut colored; the membranes at the base of the fore wings are almost white, and the venation of both pairs of wings, except about the marginal cells, is pale in the types. The collar or hind margin of pronotum is usually more broadly pale colored than in *areolata*

MEASUREMENTS IN MILLIMETERS.

	Male Type.	Female Allotype.
Length of body	21.5	18
Width of head across eyes	5.5	5.5

Expanse of fore wings	43	43
Length of valve	5.3	

In addition to the type and allotype specimens have been examined from numerous localities in California, which it will be noted are generally near the western part of the state and west of the Coast Range.

California.—Sonoma Co., February, 1913, male (Oslar); March 10, 1914, male and five females; March 15, 1914, two males; May 1, 1914, male and four females; April, two males, four females. Eldridge, Sonoma Co., April 19, 1917, three males. Sonoma Co., May 2, 1917, two males. San Mateo Co., June 8, 1917, two females (F. W. Nunenmacher). Crystal Lake, San Mateo Co., May 14, 1916, male (Dr. F. E. Blaisdell). Santa Cruz Co., April, 1917, male (E. R. Leach). Palo Alto, Santa Clara Co., May 26, 1914, male and female (Clarence H. Kennedy). Milpitas, Santa Clara Co., May 4, male (R. J. Smith), Havilah, Kern Co., June, 1913, female. Los Angeles, May 20, 1918, male, and Griffith Park, Los Angeles, May 13, 1918, male (Frank Morton Jones).

In the collection of the Museum of the Brooklyn Institute of Arts and Sciences, there is a male from Camp Taylor, Marin Co., California, June, 1906, in which the transverse rugæ, the femora, tibiæ and costal margin of the fore wings are of a red-orange color. The transverse rugæ are usually black in *similis*, but except in color the specimen appears to be a *similis*.

In Mr. E. P. Van Duzee's collection there are the following from Marin Co., California:—Lagunitas, March 9, 1913, male (Dr. E. C. Van Dyke); Mt. Tamalpais, May 7, 1911, female (Dr. E. C. Van Dyke).

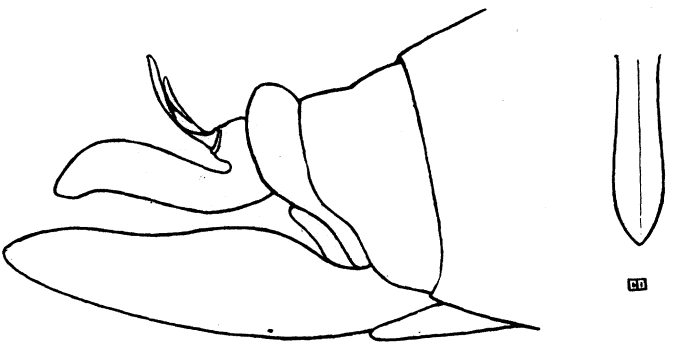
While this species resembles *areolata* in coloring, the uncus differs more in shape than does that of *areolata* from *putnami*. The form of the frontal sulcus also seems to be a good character whereby *similis* may be separated from *areolata*.

Platypedia falcata new species. Plate V, fig. 7.

Type male, El Paso, Texas, August (G. W. Dunn). Davis collection.

Head narrow across the eyes, front prominent and clothed with long black hairs on face with silvery hairs beneath the eyes. Top of head, pronotum and

mesonotum clothed with long black hairs. Beneath extremely hairy, the hairs light in color. The uncus much bent downward at extremity as shown in the illustration. The usual pale markings are present but are more chestnut colored than they commonly are. In the fore wings the costal margin to the end of the radial cell, likewise most of the venation except about the marginal cells is chestnut colored; the basal membranes are almost white. The femora



PLATYPEDIA FALCATA

are chestnut colored, those of the first pair of legs blackish beneath, and of the other two pairs striped on the sides with black.

MEASUREMENTS IN MILLIMETERS.

	Male Type.
Length of body	20
Width of head across eyes	5.5
Expanse of fore wings	46
Length of valve	5

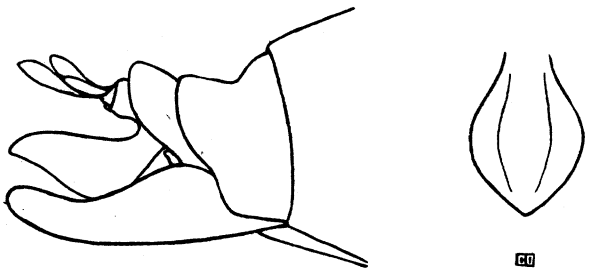
This species may be known from the other members of the genus by the differently shaped uncus, and the long stiff black hairs on the front of the head, and on other parts of the body. Only the type has so far been examined.

Platypedia aperta Van Duzee. Plate V, fig. 8.

1915. Journal N. Y. Entomological Society, XXIII, p. 29.

In the original description this species is said to be "about 16 mm. to tip of abdomen, with the elytral venation black and the inner margin of the second ulnar areole more rectilinear, scarcely more angled than in *areolata*." No other species of the genus so far ex-

amined has the uncus "nearly as broad as long," as it is in *aperta.* In the female the notch in the last ventral segment is broadly V-shaped. In this species the fore wings are of the same general shape as in



PLATYPEDIA APERTA

putnami and *areolata,* that is proportionately narrower than in *vanduzeei, minor* and *barbata.*

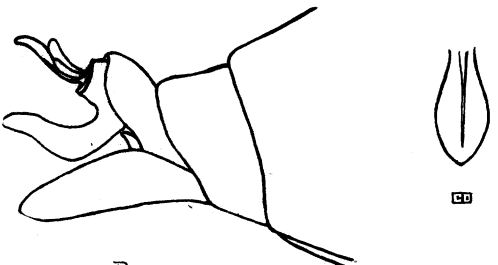
The species was described from seven males and two females taken by Mr. Van Duzee at Alpine, San Diego Co., California, June 8, 1913, and June 6, 1914, and one male from San Diego city, taken May 20, 1913. Three of the cotypes, taken on June 6, 1914, have been kindly contributed to the writer's collection by Mr. Van Duzee. The holotype, San Diego Co., Calif., June 8, 1913, male (E. P. Van Duzee), is figured on the plate. Prof. Wm. S. Wright has sent three females from San Diego, Calif., collected May 24, 1913.

Platypedia vanduzeei new species. Plate V, fig. 9.

Type male and allotype female, San Diego Co., California, March 22, 1914 (E. P. Van Duzee). Collection California Academy of Sciences.

Front of head moderately produced, with the sulcus distinct and the sides nearly parallel, not expanding below the middle as in *minor.* Head broader across the eyes than the front margin of the pronotum; sides of the pronotum nearly parallel until just before the posterior angles when the pronotum is suddenly widened at the collar. Body very hairy, the hairs on the head and pronotum darker than those on the rest of the body, especially on the under side, where they are almost white. Fore wings with the front margin evenly but considerably curved; the wings themselves are broader across the middle than in *aperta.* Uncus when viewed from above broadly lanceolate and subacute at apex, its width about half the length; seen in profile when raised above the valve it resembles the upturned head of a broad-headed snake. In the female the notch in the last ventral segment V-shaped.

General color bronze-black, the abdomen more shining. Membranes at base of fore wings orange; costal margin dull orange to end of radial cell; veins surrounding the apical areas of both pairs of wings black or nearly so. The pale marks on the body are those usual to the genus. The fore femora are black beneath, paler above, usually chestnut colored, sometimes striped.



PLATYPEDIA VANDUZEEI

MEASUREMENTS IN MILLIMETERS.

	Male Type.	Female Allotype.
Length of body	14	13.5
Width of head across eyes	4.5	4.5
Expanse of fore wings	35	36
Length of valve	2.5	

In addition to the type and allotype the following have been examined from California:—San Diego, May 5, 1891, three males, and May 10, 1891, one female (Dr. F. E. Blaisdell); San Diego County, March 22, 1914, four females (E. P. Van Duzee). In Mr. Van Duzee's collection there are three males and one female also collected by him in San Diego County, March 22, 1914. Los Angeles, 1887, male (Coquillett). Hills near Los Angeles, May 11, 1915, female (Alonzo Davis); Los Angeles, May 27, 1916, two males (Alonzo Davis). Griffith Park, Los Angeles, May 11, 1918, male and two females, and May 13, 1918, male (Frank Morton Jones). Pasadena, June 19, 1916, female and May, 1918, male (Alonzo Davis). Universal City, June 9, 1915, male (C. A. Hill). Santa Barbara, May 5, 1919, sixteen males and six females, May 20, 1919, four males and two females (F. E. Winters). "California," six males and four females.

Mr. Winters writes of the cicadas he collected at Santa Barbara as follows: "In the first week of May I caught my first cicadas on

the steep embankment of a hill road struck by the afternoon sun and protected by the hill and huge eucalptus trees from the sea winds. They were sitting on wild anise or dill, preferring the stem about two feet from the ground. They were not very shy and picking them with my fingers I found the best method of collecting. Sweeping did not prove effective, for as soon as the outer branches of the wild anise, which reaches a height of three or four feet, were hit, they would let themselves drop before the main stem was reached by the net. They cling to the stem head up." The cicadas were confined to the before-mentioned embankment of the short hill road, about 300 yards in length, and Mr. Winters was unable to find a single specimen in any other locality. He continues: "Collected on the 20th inst. some more of the cicadas, six in all, but confined to one bush, and not a single one anywhere else."

In the Uhler collection, U. S. National Museum there is a single male labeled "Nevada."

This species is smaller than *minor* and resembles in size both *aperta* and *barbata*. From the former it differs in having broader fore wings and a narrower uncus; from *barbata* it may be told by the front margin of the fore wing having a more even curve, that is not as bent at the end of the radial cell, and by the shape of the uncus as figured. In the female the notch in the last ventral segment is not as broadly V-shaped as in *aperta*.

In his Preliminary Review of the West Coast Cicadidæ already referred to, Mr. Van Duzee writes of this species under the name of *minor* Uhler, as follows: "This distinct little species seems to be confined to the southern portion of the state where it is very abundant at times. It is found on grassy hillsides from the last of March to about the first of July where it may generally be found resting on the stems of the sage bush. It has a short peeping note which is difficult to locate."

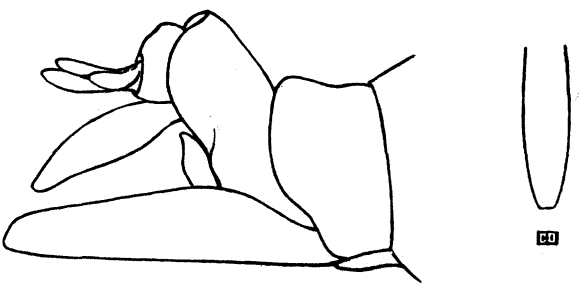
The reasons for having first identified this insect as *minor* Uhler, are considered in the remarks on that species.

Platypedia minor Uhler. Plate V, fig. 10.

1888. Entomologica Americana, IV, p. 81.

In the original description it is stated, "color a bronze-black, more highly polished upon the tergum than elsewhere; the surface, except-

ing the tergum and notum invested with long gray, or yellowish hairs and with white hairs around the meso-thoracic cross . . . front having the sulcus distinct from the base to below the middle, and thence expanding and becoming effaced, with the margins distinctly carinated, and the transverse grooves distinct . . . legs flavo-piceous, clothed with long remote white hairs and bristles, the coxæ, knees, and tarsi dark piceous. Wing-covers hyaline, somewhat tinged with fulvous at base, . . . membrane of base of wings and basal portion of nervures white." Length of body 16–17 mm.; to tip of closed wings 22–23 mm.; width of base of pronotum 5¾–6 mm. The type material is said to be "Three specimens examined from Southern California," all males.



PLATYPEDIA MINOR

Recently the Uhler collection in the United States National Museum was examined to see if the three males used in the original description could be found. A male was discovered bearing three labels. The first reads "Cal. S."; the second "*Platypedia minor* Uhler, San Mateo," and the third "*Platypedia minor* Uhler, San Mateo, Det. Uhler." The fact that "Cal. S." is on this specimen would seem to indicate that it belonged to the type series, though San Mateo is only about half way down the coast of California. Though now old and slightly broken this insect answers Uhler's description. A figure of the specimen is given on our plate. The uncus it rather slender, nearly straight below, arcuated above.

In his note on *Platypedia minor*, Journal N. Y. Ento. Soc., Vol. XXIII, p. 28, 1915, Mr. Van Duzee stated that what he was identifying as *minor* was somewhat smaller than called for in the original description, and that the true *minor* might be one of the other species

mentioned in his paper. We now find this to be the case thus making *Platypedia intermedia* a synonym of *minor*. The statement by Uhler that his *minor* came from Southern California was misleading.

This insect seems to be very common in parts of California and numerous examples have been examined as follows:—Humboldt Co., May 15, 1911, female; May 22, 1911, female (F. W. Nunenmacher). Trinity Co., May 7, 1917, six males, four females; May 8, 1917, one male, three females; May 30, 1917, four males, five females (F. W. Nunenmacher); May 30, 1917, three females; April 18, 1918, male; June 16, 1918, male (E. R. Leach). Mendocino Co., May 10, 1919, six males and six females (E. R. Leach). Ukiah, Mendocino Co., April 23, 1919, six males, three females; April 30, 1919, four males, one female; May 2, 1919, male; May 6, 1919, three males, three females; May 26, 1919, male; May 27, 1919, nine males; May 30, 1919, two males and one female (Esther P. Hewlett). Sonoma Co., March 15, 1914, one male, four females; March 31, 1914, six males; April, 1914, three males, one female; May 1, 1914, two males, two females; May 5, 1914, two males; May 10, 1914, three males, two females; May 20, 1914, female. Eldridge, Sonoma Co., April 19, 1917, male; April 20, 1917, two females; April 28, 1917, one male, four females. Sonoma Co., May 2, 1917, five males, three females (J. A. Kusche) received through the kindness of Mr. Morgan Hebard. Fairfax, Marin Co., April 5, 1914, male; May 7, 1911, female (Dr. E. C. Van Dyke). Muir Woods, Marin Co., April 23, 1911, male (Dr. F. E. Blaisdell). Contra Costa Co., May 6, 1918, male (E. R. Leach). Mills College, Alameda Co., April 25, 1908. Alameda Co., May 20, 1909, female (F. W. Nunenmacher). Palo Alto, Santa Clara Co., six males, four females (Clarence H. Kennedy). Crystal Lake, San Mateo Co., May 7, 1916, male; May 14, 1916, female (Dr. F. E. Blaisdell). San Mateo Co., June 8, 1917, female (E. R. Leach). San Louis Obispo, April, female.

Through the courtesy of Mr. E. P. Van Duzee the writer has been enabled to examine the following from his collection:—Sobre Vista, Sonoma Co., Calif., May 12, 1910, male holotype of *intermedia* Van D.; Eldridge, Sonoma Co., Calif., May 15, 1914, male (J. A. Kusche); Fairfax, Marin Co., Calif., May 7, 1911, female (E. C. Van Dyke).

In the collection of the Dept. of Agriculture, Harrisburg, Pa.,

examined through the courtesy of Josef N. Knull, there are two males from Corte Madera, Marin Co., Calif., April 17, 1915.

In the United States National Museum there are the following from California:—Santa Cruz Mts., three males and a female; San Jose, male (A. E. Bush); Napa Co., female (J. J. Rivers).

In the Academy Natural Sciences, Philadelphia, there is a male from Mt. Diablo, Pine Canyon, California, May 10, 1893.

In the writer's collection there are twenty-two males and thirty-five females collected at Glenwood Springs, Colorado, June, 1919 (Oslar). Glenwood Springs is on the Grand River, one of the tributaries of the Colorado. We have also seen a female of this species from the collection of the University of Minnesota labeled Nevada. In the American Museum of Natural History there is a male labeled Mazatlan, Mexico. It is an old, discolored specimen, but the characters are all plain including the shape of the uncus. It appears to belong to the species under consideration.

Platypedia barbata new species. Plate V, fig. 11.

Type male and allotype female from San Louis Obispo, California, April. Davis collection.

Resembles *Platypedia vanduzeei* in size, but may be separated by the broader fore wings which have the costal margin rather suddenly bent, and by the narrower uncus, as mentioned in the key.

Front of head moderately prominent, about as much so as in *vanduzeei*; sides of pronotum not as parallel as in *vanduzeei*, but somewhat converging

PLATYPEDIA BARBATA

toward the eyes. Excepting the tergum the body is covered with long hairs both above and below, the hairs on the under side are white except on the face where they are almost black. The pale colors of the upper surface are those common to the genus, and as in *aperta* and *vanduzeei*, except that the membranes at the base of the fore wings are more red than orange. Beneath the legs are mostly chestnut colored, the anterior femora darkened beneath

and all of the femora faintly striped. Tibiæ darkened at the knees. Uncus when viewed from above long and narrow, rounded at the extremity, faintly keeled near the base; seen in profile sinuate along the lower margin. Last ventral segment of the female allotype has the notch U-shaped, and not broadly V-shaped as in *aperta,* nor more narrowly V-shaped as in *vanduzeei.*

MEASUREMENTS IN MILLIMETERS.

	Male Type.	Female Allotype.
Length of body	15.5	16
Width of head across eyes	4.75	5
Expanse of fore wings	36	40
Length of valve	3.5	

Only the type and allotype have so far been examined. Though it resembles *minor* in some features and *vanduzeei* in others, this is a very distinct species.

Neoplatypedia new genus.

In this genus the front wings have seven apical areoles, instead of eight as in *Platypedia,* and the costal vein is strongly expanded and bent beyond the middle of the radial cell. When the insect is turned over, the wings, if closed, are seen to cover about the apical third of the abdomen; in *Platypedia* the entire under side of the abdomen is plainly in view. The uncus is remarkably long and upturned at the extremity. Type *Platypedia ampliata* Van Duzee.

Uncus when viewed from above slipper-shaped, the sides evenly converging to the rather sharp point; when seen in profile, the point rather suddenly upturned. Membranes at base of fore wings almost white. Expands 38 to 43 millimeters. Occurs in California.....**ampliata** (Van Duzee).

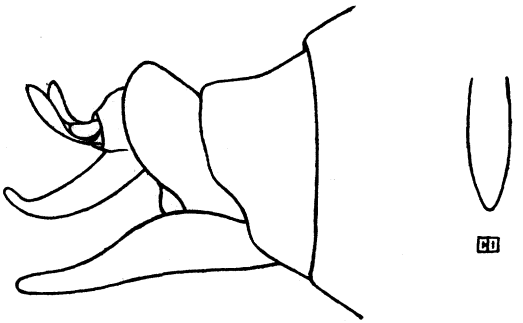
Uncus when viewed from above suddenly constricted at about one third of the distance from the rather sharp point; when seen in profile with the point gradually and moderately upturned, but not as much so as in *ampliata.* Membranes at base of fore wings orange. Expands 40 to 44 millimeters. Occurs in Arizona, Colorado, Utah, California.....**constricta** new species.

Neoplatypedia ampliata (Van Duzee). Plate V, fig. 12.

1915. *Platypedia ampliata* Van Duzee. Journal N. Y. Entomological Society, XXIII, p. 29.

The original description states that the remarkably broad fore wings are obviously angled beyond the middle of the costal areole, and that the costal nervure is broadly expanded, especially in the male, reaching a width of nearly one millimeter. Body clothed with long blackish hairs which become gray beneath and on either side of the mesonotal ×. Front strongly produced; last ventral segment of the

male narrow and rounded at apex, valve moderately long and expanded at base; uncus lanceolate with the slender point upturned and attaining the apex of the valve. Last ventral segment of the female with a narrow subacute incision reaching nearly to its base. "Color black; supra antennal plates, a small dot at the base of the vertex con-



NEOPLATYPEDIA AMPLIATA

tinued as a median line on the pronotum which does not reach the hind margin, narrow hind edge of the pronotum, sides of the mesonotal $\times$ posteriorly, elytral nervures except close to their base, depressed sides of the pronotum and legs in part, pale." Length 16 mm., expanse 38 mm. The species was "described from one male without locality, in the collection of the University of California, and two females from Mary's River, Oregon, received from Dr. Wilson." Mr. Van Duzee has kindly sent me the male holotype for examination, and it is figured on the accompanying plate. It is immature which accounts for the costal nervure being so flattened out in mounting; usually it is stiffer and less pliable. The membranes at base of fore wings are white.

The following specimens have been examined:

Oregon.—Mary's River, female, collection Oregon Agricultural College. In this individual the notch in the last ventral segment is a "subacute incision" and narrower than in the twenty females of *constricta* examined from Arizona. It expands 38 mm.; membranes at base of fore wings yellowish white; fore femora black except at extremities.

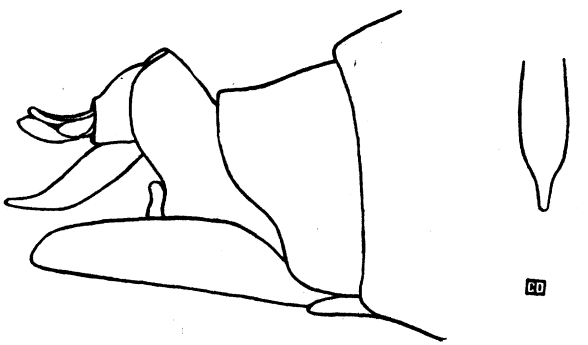
California.—Contra Costa Co., May 6, 1918, male. The genitalia of this specimen have been drawn by Mr. C. E. Olsen. The mem-

branes at the base of the fore wings are white. In the Am. Museum of Natural History there is a male labeled "California." The uncus is tapered gradually to the upturned point; membranes at base of fore wings white; fore femora black, upper surface with longitudinal chestnut colored stripes.

Neoplatypedia constricta new species. Plate V, fig. 13.

Type male and allotype female from Trumble Mountain, Mohave Co., Arizona, 1919 (J. A. Crosby). Davis collection.

Resembles *Neoplatypedia ampliata* in size and general coloring, but may be separated by the following characters: The uncus instead of being evenly narrowed to the extremity is constricted about one third of the distance from the tip; when seen in profile the uncus is not so suddenly upturned, and though bent upward the curve is more gradual. The head is narrower across the eyes than in *ampliata*. In the male the abdomen when viewed from above is



NEOPLATYPEDIA CONSTRICTA

rather suddenly constricted beyond the sixth segment, whereas in *ampliata* it tapers more evenly to the end of the body. In the female allotype the notch in the last ventral segment reaches nearly to the base of the segment and is wider open than the notch in the female *ampliata* examined from Mary's River, Oregon. Fore femora black or nearly so, except at the extremities. Membranes at base of fore wings orange; in *ampliata* they are white or yellowish white. The supra-antennal plates, a median line on the pronotum, narrow hind edge of the pronotum, and sides of the mesonotal × posteriorly, are pale, as is usual in *Platypedia*.

MEASUREMENTS IN MILLIMETERS.

	Male Type.	Female Allotype.
Length of body	18	18
Width of head across eyes	5.25	6
Expanse of fore wings	42	44
Length of valve	4	

In addition to the type and allotype fifty-nine males and twenty females collected by J. A. Crosby at Trumble Mountain, Mohave Co., Arizona, in the spring or early summer of 1919, have been examined. The following have also been seen:—Stockton, Utah, May 16, 1916, female (Tom Spalding). Beaver Valley, Utah, male; South Creek, Beaver Co., Utah, male; Washington Co., Utah, June, 1917, male (G. P. Engelhardt), collection Museum Brooklyn Institute of Arts and Sciences.

Bondad, Colorado, June 27, 1919, about 6,100 ft., fifteen males, twenty-two females, collection Am. Museum of Natural History. When these specimens were collected by Dr. F. E. Lutz, he noted that they "sang *zip, zip, zip, zip* for a long time."

In the U. S. National Museum there is a male and female labeled Los Angeles Co., Cal., May (Coquillett). These are blue black in color, particularly the head, pronotum and mesonotum; the membranes at the base of fore wings are bright orange; the uncus in the male is constricted near the extremity, though not as much so as in the examples from Arizona, Utah and Colorado. The notch in the last ventral segment of the female is as wide as in the female allotype from Arizona. In the California Academy of Sciences there are two immature males from Bear Lake, San Bernardino Mountains, California; May 13, 1919 (J. O. Martin), which have the membranes at the base of the fore wings bright orange.

Genus **Melampsalta** Kolenati.

In Mr. Distant's Synonymic Catalogue of Homoptera, Part I, Cicadidæ (1906), the type of the genus *Melampsalta* is given as *musiva* Germar, of the old world, and other species of the genus are recorded from continental Europe, Africa and Asia, also from Japan, Australia and New Zealand. One species is listed doubtfully from Surinam and *Melampsalta parvula* Say, from North America. In his Rhynchotal Notes, XXXV, Annals and Magazine of Natural History, series 7, 1905, Mr. Distant considers *Melampsalta* a "congested genus."

In *Melampsalta* the median and cubitus veins coalesce near the base of the fore wing, whereas in the other genera of Cicadas in America north of Mexico, these veins reach the basal cell or arculus separately. Normally in *calliope* (*parvula*) there are six apical areas

in each hind wing, but there are occasional specimens with but five. Sometimes one wing has five and the other six. In the writer's collection two female *calliope* from Louisiana have five apical areas in each hind wing, and a male from Alabama has five apical areas in the left hind wing and six in the right. A male from Clarke Co., Mississippi, has five apical areas in each hind wing. This specimen is figured on the plate. In Entomologica Americana, Vol. IV, p. 82, 1888, Uhler states: "Several specimens of *M. parvula* [*calliope*] have been examined by myself, in which six apical areoles were present in one wing and five in the opposite one."

While in *kansa* the median and cubitus veins unite near the base of the fore wing, thus placing it in the Division Melampsaltaria Distant, the fact that it has but five apical areas in the hind wing would seem to consign it to the genus *Pauropsalta* Goding and Froggatt. In the original description of the genus the head is said to be as "wide or a little broader than front of pronotum." It is narrower than front of pronotum in *kansa*, and the illustration of the venation and shape of the fore wing of *leurensis* Goding and Froggatt, the type of the genus, from Australia and Tasmania, show other differences. So it has been thought best for the present to leave *kansa* in the genus *Melampsalta*.

As the genus *Melampsalta* is not a congested one in North America, it will do for the present to also include *camerona* therein, though there is the same objection as in *kansa*, namely the small number of apical areas in the hind wing. However, this character has here been shown to be variable to some extent in the same species.

KEY TO THE SPECIES OF MELAMPSALTA.

(Mentioned in this paper.)

Hind wings with 6 apical areas; rarely there are specimens with but five.

Females straw colored, occasionally with dark marks on the head and thorax. Males usually smaller and with dark marks. Females expand about 37 mm.; males about 35 mm. ..... **calliope** (Walker).

Both sexes green, immaculate, or nearly so.

calliope var. **floridensis** new variety.

Hind wings with 4 or 5 apical areas.

Hind wings with 5 apical areas; body slim, of the same width across the region of the tympanal openings as immediately above and below. Both sexes immaculate green and of the same size; expands about 32 mm.

kansa Davis.

Hind wings with 4 or 5 apical areas; body broader across the region of the tympanal openings than above or below. Both sexes greenish, with dark marks on the head and thorax; and of the same size; expands about 25 mm. ..... **camerona** new species.

Melampsalta calliope (Walker). Plate V, figs. 14–15.

In 1825 Thomas Say described the only species of *Melampsalta* known up to within a short time from North America, under the name of *Cicada parvula.* He stated that the body was "dull testaceous" with some indistinct blackish marks on the thorax, and that the insect inhabited Missouri. He gave the length as seven-tenths of an inch [17.5 mm.], adding that it is a very small species, and that he has "a specimen from near the Rocky Mountains, which is entirely green, it is a female, and probably of the same species with the above. Its length, to the tip of the hemelytra, is four-fifths of an inch," that is, 20 millimeters. The first mentioned specimen was evi-

MELAMPSALTA CALLIOPE

dently a male, judging from size and color, though the sex is not mentioned by the author.

In the Canadian Entomologist, Vol. 41, p. 390, 1909, G. W. Kirkaldy states that the name *Cicada parvula* was preoccupied, and gives *calliope* Walker as the name of the species. It appears that in 1798 Fabricius described in Supplementum Entomologiæ Systematicæ, p. 521, a "*Cicada parvula*" from Cayenne, South America.

In 1830 E. F. Germar described *Cicada pallescens* in Thon, Entomologisches Archiv, ii, p. 8, from Georgia, Americæ. It is said to be small, half the size of *C. hæmatoda.* Head pale, front impressed. Collar pale testaceous, with the border all green. Mesothorax pale, variegated with green. Abdomen pale at base, green at apex. Body testaceous beneath, legs variegated with green. Wings entirely hyaline, costa and veins green, the wavy vein parallel to hind margin sometimes black.

This name was also preoccupied according to Mr. Van Duzee's

Catalogue of the Hemiptera of America North of Mexico (1917), for in 1776 Otto Frederich Muller described in his Zoologiæ Donicæ Prodromus, p. 102, a *Cicada pallescens* from Denmark.

In 1850 Francis Walker described *Cicada calliope* in List of the Specimens of Homopterous Insects in the Collection of the British Museum, Part I, p. 212, and gave the locality as "Warm Springs, N. Carolina." Mr. Franklin Sherman, of Raleigh, N. C., does not know of any Warm Springs in North Carolina, nor is the name in the postal guide. It may be that the present Hot Springs in Madison County was the locality.[1] Walker gives among other characters, body pale ferruginous; head as broad as the "fore-chest"; face slightly convex, not at all prominent, adorned with a tawny stripe; crown pitchy; eyes not prominent; "scutcheon [pronotum] adorned with two parallel pitchy stripes, its sides and the furrows also pitchy; hind-scutcheon [hind margin of pronotum or collar] rather narrow above, much broader and rounded at the base of each fore-wing, convex on the middle of each side; scutcheon of the middle-chest [mesonotum] adorned with three broad black stripes; the side pair slightly obconical and oblique; hind border hardly excavated; abdomen obconical, very little longer than the chest, paler beneath, adorned with three rows of pitchy spots, which are much longer and more distinct on each side than in the middle; hind borders of the segments pale tawny." The "wings colorless; fore border ferruginous; veins ferruginous, black towards the tips; fore membranes tawny; flaps tinged with brown at the tips, buff at the base and along the middle vein. Length of the body 6 lines [13.5 millimeters], of the wings 17 lines," [expanse of wings 38 millimeters].

As this name was not preoccupied it has been used by Mr. Van Duzee in his catalogue for the small species covered by the description, extending from the Atlantic through the southern states northwestward to Nebraska and Colorado.

[1] Since the above was written Mr. Nathan Banks has called my attention to Edward Doubleday's "Communication on the Natural History of North America," Entomological Magazine, October, 1838, where, under the heading "Warm Springs, North Carolina, July 8, 1838," he says: "From Asheville I walked most of the way to this place; for in this mountainous country the stage scarcely makes four miles an hour. The road runs mostly by the side of the French Broad river, between high and wooded mountains."

Madison Co., N. C., is therefore the type locality for *calliope*.

In 1888 P. R. Uhler in his "Preliminary Survey of the Cicadæa of the United States," Entomologica Americana, IV, p. 22, states that "This neat little insect is of a pale green color when alive, sometimes marked with fuscous, but speedily becomes straw yellow after desication and exposure to the air. It inhabits the plateau-lands of Georgia, Tennessee, Louisiana, Arkansas, Illinois, Kansas and Texas; but it has not thus far been reported from the costal plain of any of the States in which it has been found."

In 1892 Uhler in his "Preliminary Survey of the Cicadidæ of the United States, Antilles and Mexico," Trans. Maryland Academy of Science, I, p. 165, says further regarding the species: "Common in various parts of the United States, and quite variable in color and pattern of marking. When fresh, the ground color is pale green, with the marking of the head, thorax and tergum brownish black; but when dried and kept for some time in the cabinet it becomes pale or dark straw-yellow. Specimens from Florida are much narrower than those from Illinois, Kansas and Nebraska. A male from Texas is faded straw yellow, with a little black on the vertex and about the antennæ. The males are sometimes much smaller than the females."

It will be noted from the foregoing that Say thought that his *parvula* might occur either "dull testaceous" or green, and Uhler considered *parvula* "quite variable in color," and that the fresh green specimens changed in the cabinet to a "pale or dark straw yellow." The series of specimens now in the writer's collection shows that *calliope* in the southeastern United States is marked in the males as described by Walker, and that the females which are usually larger are often lighter colored and without the dark marks on the body. Specimens examined from Florida and parts of Georgia are green, and the same difference in size usually exhibits between the males and females. Specimens from Nebraska, Kansas and Iowa are usually lighter colored than more eastern examples, and while the males have dark marks on the body, the females, which are usually larger than the males, are generally straw yellow; some, however, show faintly the dark marks on the dorsum, particularly on the mesonotum.

Specimens of *Melampsalta,* supposed to be *calliope* as described by Walker, have been examined as follows:

Virginia.—Opposite Plummer's Island in the Potomac River, Au-

gust 9, 1915, female (H. S. Barber). This specimen was found while looking for insects at night with a lantern.

North Carolina.—From Southern Pines and collected by the Rev. A. H. Manee, two males and two females (no date), the females are as small as the males and marked like them; female, July 7, 1911, small and marked like male; male, July 7, 1914; male, July 8, 1914; two males, July 9, 1914; sixteen males, July 12, 1915, and all marked as is usual in males. Mr. Manee writes that he finds many of these cicadas on young pines. Wilmington, August 1, 1911, female (George P. Engelhardt), collection Museum of the Brooklyn Institute of Arts and Sciences. Two females collected at the same place and time as the last by Mr. C. L. Pollard, are in this collection of the Staten Island Institute of Arts and Sciences.

Georgia.—De Witt, Mitchell Co., male (C. S. Spooner); has the dark markings usual, in males. Spring Creek, Decatur Co., July, 1912, four males, three females (J. Chester Bradley), collection Cornell University. In the Uhler collection, U. S. Nat. Museum, there are a male and two females labeled "Ga." All are about the same size and straw colored; the male with black marks on the pronotum. Albany, Dougherty Co., August 1, 1913, female (Rehn and Hebard), collection Acad. Natural Sciences of Philadelphia.

Alabama.—Mobile, five males and five females (H. P. Loding). Grand Bay, Mobile Co., May, 1915, male and female; May 20, 1915, male and female; May 22, 1915, male, all collected by H. P. Loding. Irvington, July 5, 1915, male. Mt. Vernon, May 13, 1917, two males (H. P. Loding). Spring Hill (no date), female; same locality, Aug. 1, 1917, male (T. Van Aller).

Mississippi.—Through the kindness of Prof. R. W. Harned, I have been able to examine thirty-one specimens of this species collected in Mississippi by the students of the State Agricultural and Mechanical College. The localities range from near the northern part of the state to the Gulf coast, and the dates of capture from May 14, 1915, at Fontainbleau, to August 5, 1916, at Hattiesburg. The localities are:—Verona, Houlka, Egypt, Stonewall, Laurel, Columbia, Hattiesburg, Lucedale, Anner, Caesar, Nugent, Kiln, Long Beach, Ocean Springs, Fontainbleau and Pascagoula.

It may be remembered that Uhler reported this species only from

"plateau lands," but the last six localities mentioned are in the low lying Gulf strip of Mississippi, which rises a few feet above the level of the sea.

Louisiana.—Alexandria, August 22, 1915, female (Rehn and Hebard); two females labeled "La." One of these females is plain straw colored with a greenish collar, while the other two have dark marks on pronotum and mesonotum.

Indian Territory.—Hughes, June 20, 1907, in cotton field, male (F. C. Bishopp), collection U. S. Nat. Museum.

Missouri.—Hartville, Wright Co., June 20, 1873, female, collection Museum Brooklyn Institute of Arts and Sciences.

Illinois.—In the Uhler collection, U. S. Nat. Museum, there are two males, one labeled "N. Ill.," and the other "Ogle Co., Ill." They are marked with dark spots.

Iowa.—Iowa City, June 24, 1898, female (Wickham). This is a straw colored individual. In the Uhler collection, U. S. Nat. Museum, there are three males and one female from Denison. The males have the usual dark marks, while the female is straw colored. In the same collection there is a female from Dallas Co. that has blackish marks on the thorax, but is lighter than the males.

Kansas.—Wakefield, Clay Co., male and three females; Sheridan Co., 2,650 ft., male (F. X. Williams); Barton Co., 1,816 ft., June 22, 1912, male (F. X. Williams); Ellsworth Co., July, male (Warren Knaus); Grove Co., 2,813 ft., male (F. X. Williams); Topeka, July 11, male and female (E. G. Smyth); Clark Co., June, 1,962 ft., male (F. H. Snow); Chautauqua Co., 841 ft., two males, two females (R. H. Beamer); Miami Co., 1915, male (R. H. Beamer); Ness Co., July 5, 1912, 2,260 ft., female (F. X. Williams); Douglas Co., 900 ft., two females (F. H. Snow); Riley Co., July 13, two females (Popenoe).

In the above series the males are marked with black, while the females are larger and almost wholly straw colored. A few females have indistinct darker marks, particularly on the mesonotum.

Nebraska.—Lincoln, June 25, 1908, 1,450 ft., two males, one female (R. W. Dawson); South Bend, June 25, 1915, female, and July 14, 1915, male (E. M. Partridge); Omaha, June 22, 1918, female (R. R. Leussler).

In the Uhler collection, U. S. Nat. Museum, there is a female

labeled "Nebraska," which has blackish marks on the head and thorax, a dorsal row of dark spots on abdomen, also a row of dark spots on each side of the abdomen. Wings are rather narrow. It expands 39 millimeters.

In the collection of the University of Nebraska are the following: —Rulo, Richardson Co., July 1, 1915, female (E. M. Partridge). Crete, Saline Co., July 6, 1893, female. Lincoln, Lancaster Co., June 24, female; July, male; July 4, 1893, male; June 25, 1908, 1,150 ft., nine males and two females (R. W. Dawson); June 25, 1908, female (C. H. Gable); July 18, 1908, male, and July 23, 1908, male and female (J. T. Zimmer); July 15, 1909, 1,150 ft., female (F. A. Burnham); June 20, 1911, male (L. M. Gates); June 26, 1914, male (G. W. Deming). South Bend, Cass Co., June 24, 1915, female; June 25, 1915, female; June 30, 1915, male, and July 14, 1915, male (all collected by E. G. Anderson). West Point, Cuming Co., three males; June, female; June, 1887, male; July, 1888, male and female. Maskell, Dixon Co., July 16, 1915, male and female (E. G. Anderson). Carns, Keyapaha Co., July 9, 1902, male; July 11, 1902, female; July 25, 1902, female (W. D. Pierce). In this series the fifteen females are all larger than the twenty-four males, and are of a uniform yellowish straw color. The males are marked in every instance on the head, pronotum, mesonotum and abdomen with dark spots.

Colorado.—In the U. S. National Museum there is a male and female labeled "Granada, Col." This locality is in Prowers Co., in the eastern part of the state and not far from the Kansas state line.

Melampsalta calliope var. **floridensis** new variety. Plate V, fig. 16.

Type male, Ft. Meade, Florida, July 30, 1915 (Mrs. F. E. Porter).

Allotype female, Rye, Florida, July 9, 1919 (Joseph Lienhart). Both in Davis collection.

In the writer's collection there are sixteen specimens from peninsula Florida of what is considered a green and geographic variety of *calliope*. This variety extends to southern Georgia, and perhaps beyond along the coast, where it joins the darker, typical form, in which the males especially are marked with black, or nearly black spots on the head and thorax. The Florida examples in addition to being grass green are immaculate or nearly so. In the many examples examined of the straw yellow or dark typical form, we have seen none from Florida, though it should be found in the northern and especially in the northwestern part of the state. The fact that there is a

grass green *Melampsalta*, though of quite a distinct species, in Texas, Indian Territory, Kansas and Colorado has confused the matter. Prof. Uhler considered the Florida insect narrower than the western one, but the considerable series examined does not confirm this. The Florida form, however, does differ from the dark specimens from Southern Pines in the Sand Hill region of North Carolina in having shorter and broader wings in proportion to the size of the body.

MEASUREMENTS IN MILLIMETERS.

	Male Type.	Female Allotype.
Length of body	13	13
Width of head across eyes	4	4
Expanse of fore wings	33	32

In addition to the type and allotype the following green examples have been examined:

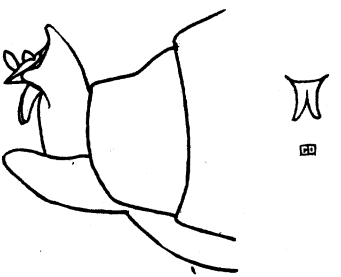
Florida.—Rye, Manatee Co., May 12, 1919, female; May 15, 1919, male; May 28, 1919, male and female; June 10, 1919, male; July 9, 1919, female (all collected by Joseph Lienhart). Gulfport, June, 1915, male, and 1915, female (A. G. Reynolds). St. Petersburg, August, 1915, male and two females (Ludwig). Lakeland, May 5, 1912, female, and May 8, 1912, two females in open woods on low vegetation (W. T. Davis). Jacksonville, July 1, 1913, collection H. L. Johnson. Live Oak, August 10, 1903, male, collection A. P. Morse. Cleveland, April, male (C. P. Benedict), collection Staten Island Inst. of Arts and Sciences. The following are in the collection Acad. Nat. Sciences of Philadelphia:—Enterprise, April 20, female; Jacksonville, August 25, 1911, female (Rehn and Hebard). Both of these specimens are green with indistinct dark marks.

In his Observations on some Hemiptera taken in Florida in the spring of 1908, Bulletin Buffalo Society Natural History, IX, p. 184, 1909, Mr. Edw. P. Van Duzee states: "One tiny male was beaten from a small tree of a broad-leaved oak at Tampa. This specimen made a surprisingly loud noise for so small an insect. It is pale green, almost immaculate and measures scarcely 12 mm. to the tip of the closed elytra."

Georgia.—Spring Creek, Decatur Co., June, 1911, male (J. Chester Bradley), collection Cornell University. Four typical male *calliope* and three females were also taken in July, 1912, at Spring Creek by Prof. Bradley, as previously noted. Spring Creek, July, 1912, female *floridensis* (C. S. Spooner), Spooner collection.

Melampsalta kansa Davis. Plate V, fig. 17.

This small green species was described in the Journal N. Y. Entomological Society, Vol. 27, p. 340, December, 1919, from Kansas and Texas examples. Say's "entirely green" specimen "from near the Rocky Mountains," probably belonged to this species. It may be separated from *calliope* Walker (*parvula* Say), by its smaller head, uncus of different shape, as shown in the illustration, and by having five apical areas in the hind wing instead of six. In the female of



MELAMPSALTA KANSA

calliope the abdomen terminates above in a conspicuous spine; in *kansa* the spine is very small.

Since the description of *kansa* was published, additional specimens have been examined as follows:

Texas.—Sabinal, Uvalde Co., June 13, 1910, male (F. C. Pratt). Dallas, May 19, 1911, female (E. S. Tucker). Grand Prairie, June 19, 1905, male (C. R. Jones). Delhart, June 16, 1910, male (F. C. Bishopp). These are in the collection of the U. S. National Museum.

Indian Territory.—Ardmore, Chickasaws Co., June 1, 1905, female on *Rudbeckia* (C. R. Jones), collection U. S. Nat. Museum.

Oklahoma.—Carnegie, Caddo Co., male, collection of Warren Knaus.

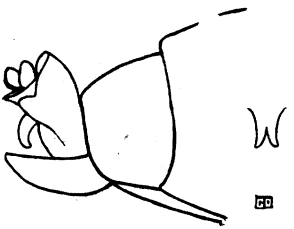
Colorado.—Lamar, about 3,600 ft., June 4–11, 1919, three males (Dr. F. E. Lutz). Regnier, Baca Co., about 4,500 ft., June 6–9, 1919. two males (Dr. F. E. Lutz). These five specimens are in the American Museum of Natural History. They have but five apical cells in each hind wing as mentioned in the description.

Melampsalta camerona new species. Plate V, figs. 18, 19.

Type male, Brownsville, Cameron Co., Texas, "7–6" (E. A. Schwarz). Collection U. S. National Museum.

Allotype female, Brownsville, Cameron Co., Texas, June, 1903 (Charles Schaeffer). Collection, Museum Brooklyn Inst. of Arts and Sciences.

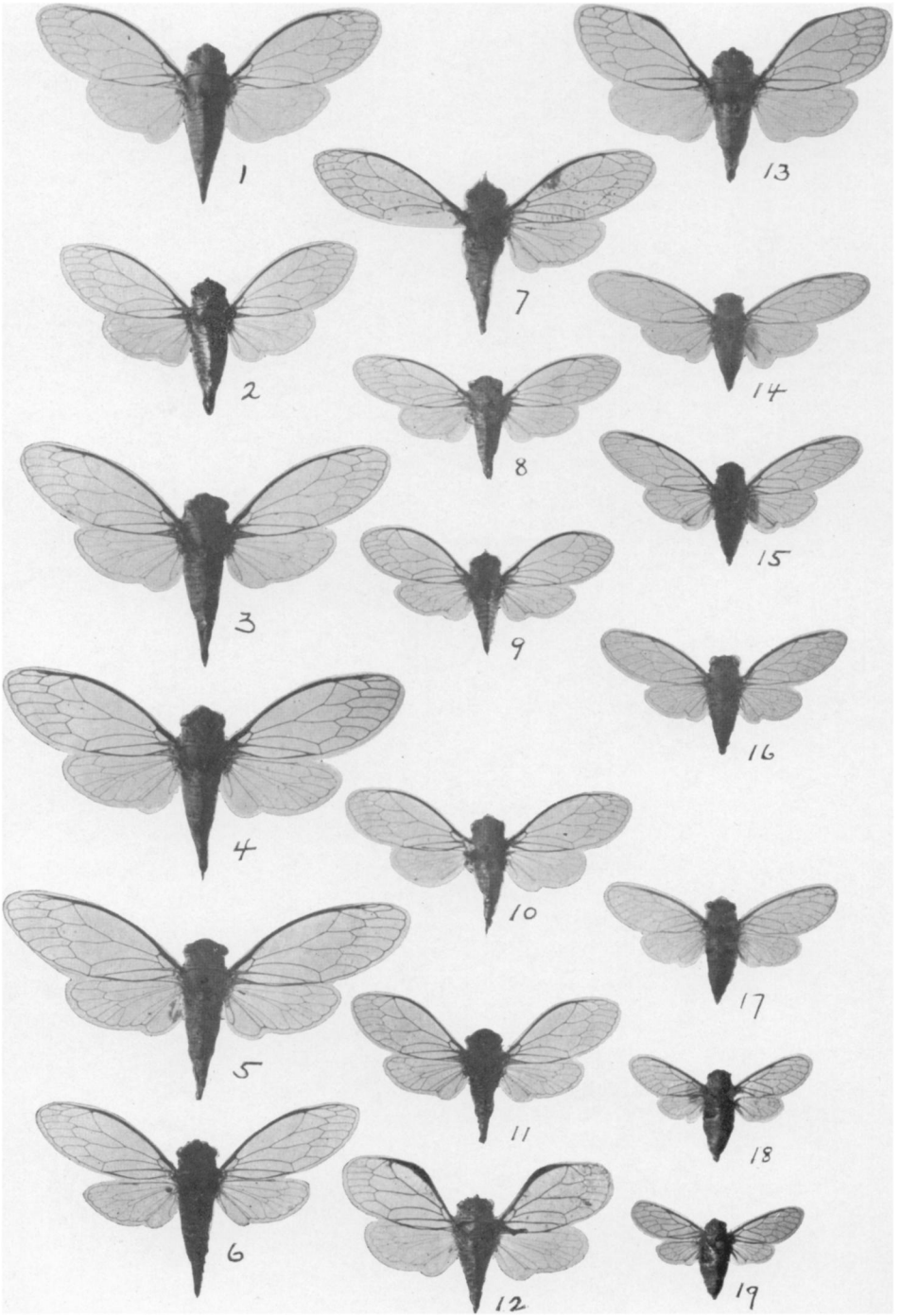
Head small, about as wide as the sinuate, anterior margin of the pronotum; sides of the pronotum not parallel, but considerably widened toward the posterior angles, which are rounded and lobiform. Cavity in which the antenna starts oblique, with the margin high and definite, except anteriorly. Median sulcus of the face well defined. Inner margin of eyes more rounded than in either *calliope* or *kansa*. Fore wings with eight apical areas in type, but with only seven in allotype, and the single paratype. Hind wings with five apical areas in type, but only four in allotype and the paratype. Tympanal orifice rather widely open; more so than in *calliope* or *kansa*. Uncus seen in profile



MELAMPSALTA CAMERONA

curved inward, claw-like; seen from behind deeply cleft. Beneath, the opercula rounded at the extremities, but the ends not touching; about as far apart as in *kansa,* and nearer together than in *calliope*. Last ventral segment broad at base with the sides rather suddenly converging to the rounded extremity. In the allotype the notch in the last ventral segment is broad and deep. While there are some short silvery hairs on the body, this is rather a smooth species.

General color of upper surface of body is green; head variegated with dark brown; a dark dot each side not quite in front of the posterior ocelli. Pronotum green; grooves with scattered brown marks; hind margin or collar entirely green. Mesonotum with four obconical dark marks, the inner pair about half as long as the outer pair. The outer pair broken up into separate blotches, especially near the greenish colored elevated ×. Hind margin of the metanotum green. Both pairs of wings clear; basal membranes almost white. Tergum green, the exposed tymbals darker. Beneath the head is variegated with brown, the median sulcus is yellowish, and the transverse rugæ are brown. The legs are pale variegated with brown; the opercula are green; the abdomen yellowish green with the usual dark spots centrally near the base. The allotype is nearly entirely green above, the head slightly variegated with brown along the front, and the dots nearly in front of the hind



(CICADIDÆ.)

ocelli are conspicuous. Beneath it is greenish except the transverse rugæ, tip of the rostrum, some variegated marks on the legs, and ovipositor, which are brownish.

MEASUREMENTS IN MILLIMETERS.

	Male Type.	Female Allotype.
Length of body	13	12.5
Width of head across eyes	3.5	3.5
Expanse of fore wings	25.5	25.5

A single paratype of this species from the collection of the U. S. National Museum has been examined. It is a male and labeled Brownsville, Texas (C. H. T. Townsend).

EXPLANATION OF PLATE V.

Fig. 1. *Platypedia mohavensis* Davis. Type.
Fig. 2. *Platypedia rufipes* Davis. Type.
Fig. 3. *Platypedia putnami* (Uhler).
Fig. 4. *Platypedia putnami* var. *lutea* Davis. Type.
Fig. 5. *Platypedia areolata* (Uhler).
Fig. 6. *Platypedia similis* Davis. Type.
Fig. 7. *Platypedia falcata* Davis. Type.
Fig. 8. *Platypedia aperta* Van Duzee. Holotype.
Fig. 9. *Platypedia vanduzeei* Davis. Type.
Fig. 10. *Platypedia minor* Uhler. Type?
Fig. 11. *Platypedia barbata* Davis. Type.
Fig. 12. *Neoplatypedia ampliata* (Van Duzee). Holotype.
Fig. 13. *Neoplatypedia constricta* Davis. Type.
Fig. 14. *Melampsalta calliope* (Walker). Six apical cells in hind wing.
Fig. 15. *Melampsalta calliope* (Walker). Five apical cells in hind wing.
Fig. 16. *Melampsalta calliope* var. *floridensis* Davis. Type.
Fig. 17. *Melampsalta kansa* Davis. Type.
Fig. 18. *Melampsalta camerona* Davis. Type.
Fig. 19. *Melampsalta camerona* Davis. Allotype. Differs from type in number of apical cells in both pairs of wings.